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PATENT APPLICATION

7-2-02

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Thierry POLLET , et al.

Attorney Docket No. Q67870

Appln. No. Unknown

Confirmation No.:Unknown

Group Art Unit: Unknown

Filed: January 04, 2002

Examiner: Unknown

For: METHOD AND ARRANGEMENT TO DETERMINE A CLOCK TIMING ERROR IN A  
MULTI-CARRIER TRANSMISSION SYSTEM



**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicants hereby notify the U.S. Patent and Trademark Office of the documents which are listed on the attached Form PTO-1449 and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

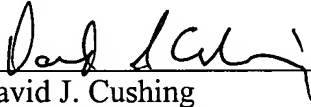
The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date for an application other than a continued prosecution application (CPA) under §1.53(d); (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

INFORMATION DISCLOSURE STATEMENT  
Attorney Docket No. Q67870

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicants enclose herewith a copy of a Communication from a Foreign Patent Office in a counterpart application citing such documents, together with an English-language version (if not already included) of that portion of the Communication indicating the degree of relevance found by the foreign office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

Respectfully submitted,

  
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Date: January 4, 2002

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|--|---|----|---|--------------------------|------------------|
| Substitute for form 1449 A & B/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(use as many sheets as necessary)</i> |   |    |   | <i>Complete if Known</i> |                  |
|  |   |    |   | Application Number       | Unknown          |
|  |   |    |   | Confirmation Number      | Unknown          |
|  |   |    |   | Filing Date              | January 04, 2002 |
|  |   |    |   | First Named Inventor     | Thierry POLLET   |
|  |   |    |   | Art Unit                 | Unknown          |
|  |   |    |   | Examiner Name            | Unknown          |
| Sheet  | 1 | of | 1 | Attorney Docket Number   | Q67870           |

11902 U.S. PTO  
 10/035302  
 01/04/02

| U.S. PATENT DOCUMENTS |                       |                 |                                      |                                |   |
|-----------------------|-----------------------|-----------------|--------------------------------------|--------------------------------|---|
| Examiner Initials*    | Cite No. <sup>1</sup> | Document Number |                                      | Publication Date<br>MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
|                       |                       | Number          | Kind Code <sup>2</sup><br>(if known) |                                |   |
|                       |                       | US 5930231      |                                      | 07/27/1999                     | Miller et al.                                   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |
|                       |                       | US              |                                      |                                |   |

| FOREIGN PATENT DOCUMENTS |                       |                           |                     |                                      |                                |  |                          |
|--------------------------|-----------------------|---------------------------|---------------------|--------------------------------------|--------------------------------|--|--------------------------|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document   |                     |                                      | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Translation <sup>6</sup> |
|                          |                       | Country Code <sup>3</sup> | Number <sup>4</sup> | Kind Code <sup>5</sup><br>(if known) |                                |  |                          |
|                          |                       | DE                        | 4315806             | A1                                   | 11/17/1994                     | Bosch GMBH Robert                                  | No                       |
|                          |                       | EP                        | 0903897             | A1                                   | 03/24/1999                     | Alcatel  | Yes                      |
|                          |                       |                           |                     |                                      |                                |  |                          |
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|                          |                       |                           |                     |                                      |                                |  |                          |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS |                       |  |                          |
|---|-----------------------|--|--------------------------|
| Examiner Initials*                                | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published. | Translation <sup>6</sup> |
|   |                       | MUELLER K H ET AL: "Timing Recovery In Digital Synchronous Data Receivers", IEEE Transactions on Communications, May 1, 1976, pages 516-531, vol. 24, no. 5  | Yes                      |
|   |                       | POLLET T ET AL: "Synchronization with DMT Modulation", IEEE Communications Magazine, April 1999, pages 80-86, vol. 37, no. 4   | Yes                      |
|   |                       | KAMMEYER K D ET AL: "SynchronisationsProbleme in Digitalen Multitradersystemen (Synchronization Probleme in Digital Multicarrier Systems)", May 1, 1993, pages 164-165, Vol. 47, no. 5/06  | No                       |
|   |                       | ULRICH TUISEL: "Multitragerkonzepte fur die digitale, terrestrische Horrundfunkubertragung" Doctoral Dissertation, Technical University of Hamburg-Hamburg, 1993, pages 112-123, Hamburg, Germany  | No                       |
|   |                       | "The Mueller and Muller Synchronizer" Baseband Communications, pages 197-207   | Yes                      |

|                    |  |                 |  |
|--------------------|--|-----------------|--|
| Examiner Signature |  | Date Considered |  |
|--------------------|--|-----------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or in the comment box of this document. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to indicate here if English language Translation is attached.